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[54] GROWTH ARREST HOMEBOX GENE

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[51] Int. Cl.[6] C12N 15/12; C12N 15/63; C12N 1/21; C12N 5/10

[52] U.S. Cl. 435/69.1; 435/243; 435/320.1; 435/325; 536/23.5

[58] Field of Search 536/23.5; 435/69.1, 435/69.4, 320.1, 252.3; 530/399

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Exhibit A is the gene sequence for the rat Gax cDNA (2244 base pairs) submitted by Kenneth Walsh, released to the public Feb. 28, 1993.

Exhibit B_1 is a gene sequence for Mox–1 (2182 base pairs) (mistakenly designated "Mox–2") submitted by A.F. Candia to New GenBank and created on Sep. 25, 1992.

Exhibit B_2 is the same gene sequence as Exhibit B_2 except the former designation "Mox–2" has been corrected to read Mox–1.

Exhibit C is the partial gene sequence for mouse Mox–2A submitted by Candia A by A.F. Candia to GenBank and created on Oct. 5, 1992.

Exhibit D is the revision of Exhibit C to show the 1440 base pair mouse Mox–2 sequence on Mar. 6, 1993.

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[57] ABSTRACT

A novel growth arrest homeobox gene has been discovered and the nucleotide sequences have been determined in both the rat and the human. The expression of the novel homeobox gene inhibits vascular smooth muscle cell growth. The growth arrest homeobox gene hereinafter referred to as the "Gax gene" and its corresponding proteins are useful in the study of vascular smooth muscle cell proliferation and in the treatment of blood vessel diseases that result from excessive smooth muscle cell proliferation, particularly after balloon angioplasty.

27 Claims, 10 Drawing Sheets